JOHAN AUGUSTO BOCANEGRA CIFUENTES
Physicist, Mg. Teaching Exact and Natural Sciences, Ph.D. candidate Technical Physics

PROFESSIONAL PROFILE

I am a professional in the area of physics, with a strong attraction for acoustics and thermal sciences in Building Optimization (design and retrofitting). Likewise, my interest in education and pedagogy. I have a teaching experience of 12 years and advanced master's studies in Teaching Exact and Natural Sciences. My projects have included computational simulation of physical systems using different programming languages and computing platforms, I have worked on the development of didactic proposals supported by new technologies. Additionally, within my technical skills, the use of microcontrollers such as Arduino.

I have held management positions in education, performing planning and control tasks, as well as the implementation and leadership of the ISO 9001 Quality Management System in educational contexts.

PERSONAL SKILLS

Spanish	Mother Tongue
Italian	LEVEL B1/ Instituto Italiano di Cultura certificate.
English	LEVEL C1/ TOEFL certificate

Digital skills: COMSOL, Ansys Fluent, Elmer multiphysics, Z88, Lattice Boltzmann PALABOS, I-SIMPA, AGROS2D, Freecad, Matlab, Scilab, Wolphram Mathematica, C++, Python, Basic, Arduino, Labview, Html, Audacity, Audition, Ableton Live, image and video editors, Word, Excel, PowerPoint, Publisher; Reference Manager Zotero.

EDUCATION AND TRAINING

2018   (actually) Ph.D. Candidate in Technical Physics

Università degli Studi di Genova, DIME

2013   (Mg.) Magister in Teaching Exact and Natural Sciences

Universidad Nacional de Colombia

Thesis titled: *Mechanical wave laboratory supported with free access information and communication technologies, a didactic proposal for the teaching of basic acoustics based on free access Technologies.*

2006   Physics

Universidad Nacional de Colombia

Thesis entitled: *Numerical implementation of a mammalian inner ear model.*

1999   High school with emphasis in Natural Sciences

Colegio Instituto Alberto Merani

COMPLEMENTARY STUDIES

Workshop/ School: Palabos Summer School 2020, UniGe (University of Geneva, Switzerland) and hepia (University of Applied Sciences of Western Switzerland). 8/7/2020 -10/7/2020.

Course: Advanced programming in MATLAB and Simulink. Prof. Matteo Lodi. Universita degli Studi di Genova. 17/07/2020.

Course: spectral analysis in practice. Prof. Ing. Giovanni Battista Rossi. Universita degli Studi di Genova. 20/02/2020.

Seminar: Tomorrow's professor. Walid Kamali Ph.D. City University, Engineering & IT Maritime Studies/ Universita degli Studi di Genova. 17/12/2019.

Seminar: Geological and geotechnical insights related to borehole heat exchanger design and realization for geothermal heat pump applications. Dr. Giorgia Dalla Santa (Ph.D.). Universita degli Studi di Genova. 25/11/2019.

Course: Numerical Thermical Fluid Dynamics/Termofluidodinamica numerica (master course). Prof. Francesco Devia, Università degli Studi di Genova. 2019.

Course: Heat Transfer/ Trasmissione del calore (master course). Prof. Giovanni Tanda, Università degli Studi di Genova. 2019.

Course: Acoustic design for buildings (master course). Prof. Davide Borelli & Prof Corrado Schenone, Università degli Studi di Genova. 2019.

Workshop/ School: Modelling, manufacturing and application of porous sound packages in today's industry, MATELYS – Research Lab, ENTPE. Lyon (France). 23/04/2019 24/04/2019.

Workshop/ School: Scuola Estiva di Fisica Tecnica XI edizione: nuove frontiere in tema di trasmissione del calore, Università degli Studi del Sannio, Massa Lubrense - Sorrento. 8/7/2019 -12/7/2019.

Seminar: Heat Storage Technologies, Prof. Aldo Giovannini, MCI Innsbruck, Università degli Studi di Genova/ MCI University Innsbruck. 29/05/2019.

Seminar: Worldwide energy situation: from waste exploitation to thalasso energy frontiers, Prof. Hervé Boileau, USMB, Università degli Studi di Genova/ Université Savoie Mont Blanc. 17/04/2019.

Seminar: Monitoraggio, simulazione e previsione del vento, DICCA, Università di Genova. 28/02/2019.

On-line Course: Simulation and modeling of natural processes, Prof. Bastien Chopard, Prof. Jean-Luc Falcone, Prof. Jonas Latt, and Prof. Orestis Malaspinas, University of Geneva. 12/14/2018.

On-line Course: Introduction to solar cells, Morten Vesterager Madsen, Technical University of Denmark (DTU). 11/28/2018

More courses: Micro architecture and interior design, Universidad Nacional de Colombia. Active Learning in Optics and Photonics, ALOP-UNESCO, Universidad Nacional de Colombia. New Tools for Creation in the Visual Arts Modules I and II, Universidad Nacional de Colombia.

WORK EXPERIENCE

2020   Università degli Studi di Genova
Functions: Didactics support, for official teaching of "Acoustic Design for Buildings", Numerical methods in acoustics.

2012-2017   Colegio Integral
Functions: Director / Principal

2014-2015   Universidad la Gran Colombia
Functions: Teaching Basic Sciences, Numerical Methods, Mathematics and Experimental Physics - Civil Engineering

2007-2012   Colegio Unidad Pedagogica
Functions: Teaching Physics and Mathematics

RESEARCH ACHIEVEMENT

Review of Acoustic Hysteresis in Flute-Like Instruments, Bocanegra, J.A. and Borelli, D. Proceedings of the 26th International Congress on Sound and Vibration, Montreal, Canada, 2019, p. 8. ISSN 2329-3675, ISBN 978-1-9991810-0-0.

Experimental analysis of four parallel single-phase natural circulation loops with small inner diameter, Mario Misale, Johan Augusto Bocanegra, Davide Borelli, Annalisa Marchitto, Applied Thermal Engineering, Volume 180, 2020, 115739, ISSN 1359-4311, https://doi.org/10.1016/j.applthermaleng.2020.115739